Artificial intelligence	Software	A robust grievance redressal mechanism is a crucial component of any administration. An efficient and effective procedure for addresstng grievances demonstrates an administration's accountability responsiveness, and user-friendliness. However, the ease of lodging a complaint or grievance by citizens is often lacking in many lndian cities. Given the large migratory population in tndian cities, consisting of individuals who may not be familiar with English, Hindi, or the local regional language, citizens face challenges in lodging their grievances. Moreover, the process of lodging a gflevance is not always straightforward. Some department websites are inaccessible, and locating the correct website for a specific department can be difficult. lntroducing an Al-based chatbot that allows citizens to dictate their grievances in their local language and lodge them, would greatly assist citizens. This tool should be able to understand and process complaints effectively, assign them to the relevant department, and provide citizens with a unique complaint number. Real-time updates on the status of the complaint should be sent to citizens, enabling one-on-one conversations throughout the grievance lifecycle. The primary objective of this solution should be to provide citizens with an easy-to_use chatbot that facilitates efficient lodging and tracking of grievances. This would not only save citizens' time in searching for the appropriate department or category but also enabl; the administration to receive targeted grievances and enhance overall service delivery.

Artificial intelligence	Software	In India, the rising number of vehicles has outpaced the growth of available parking spaces in cities, leading to issues like traffic congestion and illegal parking. To address this, it's crucial to adopt technology-based solutions. Smart parking, using sensors and software, can offer real-time information on available spaces to both officials and drivers. Additionally, leveraging technology can optimize parking prices, balancing the need to control pollution and ensure effective resource usage. The key is to equip city administrators with a predictive and financial tool for parking management. An app allowing citizens to reserve and pay for parking based on dynamic pricing can save time, reduce environmental impact, and generate revenue for the city administration.
Artificial intelligence	Software	Developing an artificial neural network for the marine industry presents significant challenges, including limited computing power, unreliable communication infrastructure, low availability of data and complex vessel systems. The goal of this problem is to design and develop an effective AI solution using deep neural networks that can optimize vessel performance, reduce operational costs, and improve safety in the context of merchant vessel operations. The solution must be able to demonstrate high accuracy, robustness, and scalability, while also addressing the unique challenges faced by the marine industry. Participants are encouraged to explore novel approaches to training and deployment, including techniques for data processing, feature extraction, and model optimization.

Artificial intelligence	Software	Developing a Proctored Exam Tool is essential for efficient remote examinations. Key features include remote monitoring through webcam and screen sharing, robust identity verification, advanced cheating prevention using AI-based facial recognition and behavior detection, securing the exam environment by disabling unauthorized resources, adherence to strict data privacy standards, user-friendly interface, scalability for large concurrent exam-takers, compatibility with diverse systems, and integration with common assessment platforms. Additionally, the tool should provide comprehensive reporting and analytics capabilities
Artificial intelligence	Software	Ideas focused on the intelligent use of resources for transforming and advancements of technology with combining the artificial intelligence to explore more various sources and get valuable insights.

Artificial intelligence	Software	AICTE has initiated a nationwide program to enhance engineering students' skills in approved technical institutions. The program involves online assessments, treating them as reliable and unidimensional measures of student ability. A question bank has been prepared, and a web-based adaptive MCQ testing system is needed for further development. This system aims to deliver internet-based assessments, adapting questions based on user performance. It begins with a pre-assessment to gauge baseline knowledge, followed by a final assessment using an adaptive algorithm analyzing user responses, time spent, and past performance data. The algorithm selects subsequent questions from a bank, varying in difficulty and content based on the student's proficiency.

Artificial intelligence	Software	Human Action Recognition (HAR) is crucial in sectors like healthcare and sports, monitoring patients and analyzing player performance. Efficient implementation is vital, and a solution involves utilizing sensor data from mobile phones, such as accelerometers and GPS, for analyzing short-duration time series data. The solution is expected in the form of an Android/iOS app developed using Simulink, incorporating references like capturing acceleration data and acquiring GPS data. The goal is to create a versatile app catering to specific domain requirements. References include links on counting steps, acquiring GPS data, deploying a Simulink model for smartphone, and a STEM challenge involving fitness trackers.
Artificial intelligence	Software	LLMs have been released by various entities / research organizations for academic and commercial use. These models can be used for generating human like responses on text based systems with server-client model. The objective of the problem is to develop a tool for network not connected to internet with following basic functions: (a) AI/ML based Text Summarization of given text. (b) Summarization of Science andamp; Technology (Sandamp;T) related documents. (c) Summarization of NEWS papers headlines and editorial pages for quick overview of specific topics. (d) Reformatting and grammar checks with contextual integrity. (e) Additional capabilities which the developer can incorporate based on features available in open source LLM models. The solutions shall be graded on the capabilities, ease of use, flexibility and scalability of deployment and number of compatible models.

Artificial intelligence	Software	SBOM stands for Software Bill of Material and lists out all the packages / modules used from various repositories to make the final solution. This list is essential for identification of vulnerabilities that may impact the final solution. This is critical for supply chain vulnerability management of solutions deployed within the organisation. Thus the task for developers is to develop a software which automatically lists various libraries, dependencies and modules that have been used for making of a given application and generates underlying SBOM. There would be added focus on creating features which can red flag anomalies with an ability to lay out the context to the user. The evaluation shall be based on automation, granularity and accuracy of the SBOM generated. Example, if the developer can identify the version of the libraries used, it shall be graded higher. Ease of use and user experience are other important metrics of evaluation.
Artificial intelligence	Software	Develop a solution utilizing OMMAS quality monitoring data to identify discrepancies among various sources. The data includes E-form reports from Quality Monitors (QMs), test datasheets, and Quality Control Registers (QCRs). The solution should compare data against standard values, analyze each source separately, and identify discrepancies for effective quality monitoring. It needs to handle large volumes of data and generate actionable insights. The objective is to enhance the quality of monitored processes. A machine learning algorithm/tool is to be developed for this purpose.

Artificial intelligence	Software	AR/VR technology based solution will help the beneficary to get a virtual miniature of the completed house at an early stage and will also give an estimate of the cost so that the beneficiary can do the necessary planning before starting the construction.
Artificial intelligence	Software	Motion Amplification video (MAV) is a technique for visualizing and measuring vibration of structures and machinery. This processes a video clip of an object, extracts feature that are moving from frame to frame, then amplifies and replays the motion in each frame. Defects at micro scales are rendered visible. Vibration amplitudes and mode shape can be thereafter be determined. Time waveform and FFT spectrum can also be captured. This would be extremely useful in evaluating noise, vibration and shock on various platforms. It is also useful in automobile, power plants, industry and other engineering sectors.
Artificial intelligence	Software	Develop an Augmented Reality (AR) or Virtual Reality (VR) system for the live training of troops.AR/VR system for live training of troops requires expertise in hardware, software development, content creation, and user experience design. Collaboration with domain experts, instructional designers, and technology specialists can help ensure the system meets the specific needs of the military training environment.
Artificial intelligence	Software	Govt. employees and departments need help in various process of general business nature ranging from procurement to implementation, authority to directions, etc. Proposed Solution: Centralised and department wise Chatbot based helpdesk should be developed Benefits: 1. Increase productivity 2. Increase inters department coordination 3. Increase job satisfaction among Govt. employees directly and indirectly in citizens.
Artificial intelligence	Software	A mobile application that helps you limit your water and electricity usage to a predetermined goal by outlining the behavioural change that would be required to meet those targets. Behavioural nudges ought to be embedded in the user experience based on deep research about the best practices of efficient water and electricity usage from around the world.

Artificial intelligence	Software	Website that tells you the location of the nearest e-waste collection and recycling facility. Offers educational pop-ups on the harmful components of your e-waste and their effects on the environment and human health if not disposed correctly. There could be an option to input the model of your old device and earn credit points relative to the amount of precious metals recovered from the device if disposed correctly.
Artificial intelligence	Software	A software that allows the ministry to monitor the success of their behavioural nudges in real time with respect to consumer choices and environmentally friendly actions. The software will define certain measurable outcome indicators and track the changes in them over time. The changes will be correlated to LiFE activities and awareness programmes to measure the success of the behavioural nudges.
Artificial intelligence	Software	The comprehensive model should be able to feed-in real time data input and give the necesaary output parameters. For example for a Hydro Project , the inflow input of water in the river should be able to give the real time data ouput such as Energy output, Spilling(if any), Head loss, etc. .It would be a similar dynamic digital replica/mimicry of the real project.

Artificial intelligence	Software	Infrastructure development across sectors like education, health, and agriculture faces challenges with manual monitoring tools, leading to additional costs and delays. Specifically, in education, establishing technical institutes involves complex processes, and current geo-tagging methods only address land identification. The lack of real-time monitoring hampers progress. To overcome this, there's a need for GIS and AI-based solutions for real-time infrastructure monitoring. An application, functioning online and offline, can capture daily progress data, populating it into the system. Interactive dashboards and charts allow real-time monitoring, and a simulation interface provides flexibility to analyze external factors' impact on project completion time.
Artificial intelligence	Software	The problem at hand involves developing a cost or price comparison solution specifically tailored for comparing the prices of products available on GeM (Government e-Marketplace) with other e-marketplaces or e-commerce platforms. GeM is a dedicated online platform in India that facilitates the procurement of goods and services by various government departments, organizations, and public sector undertakings. Comparing the prices of products listed on GeM with those on other platforms is crucial for ensuring fair and competitive pricing. The cost or price comparison solution aims to provide users with a convenient way to compare the prices of products available on GeM with other popular e-marketplaces or e-commerce platforms. By leveraging data scraping techniques, APIs, and data analytics, the solution will gather and analyze pricing information from multiple sources, allowing users to make informed decisions based on the best available options.

Artificial intelligence	Software	The problem at hand involves developing a knowledge management tool specifically designed for contact centers, aiming to streamline customer support and enhance the efficiency of agents through the implementation of a decision tree framework. Contact centers handle a vast amount of customer inquiries, and providing accurate and consistent responses is crucial for delivering high-quality customer service. The knowledge management tool with a decision tree is designed to assist contact center agents in accessing relevant information quickly and making informed decisions when interacting with customers. It leverages a decision tree structure, which is a hierarchical model that guides agents through a series of questions and steps to determine the appropriate response for a given customer query or issue.
Artificial intelligence	Software	The Indian Railways is one of the largest railway networks in the world, serving millions of passengers daily. However, with the increasing number of passengers and trains, the management of railway stations and trains has become a challenge, especially when it comes to crowd management, cleanliness, crime prevention, and work monitoring. The traditional methods of manual monitoring and surveillance are time- consuming, and human error can lead to missed incidents. The integration of AI and ML technology can help the Indian Railways to overcome these challenges. AI-based CCTV networks can analyze large amounts of data in real-time and provide insights into crowd management, crime prevention, and work monitoring. This can improve the safety and security of passengers, as well as the efficiency of railway operations. For example, AI algorithms can detect unusual behavior and alert security personnel, while ML algorithms can predict crowd patterns and help with resource allocation. However, implementing AI-based GCTV networks requires a significant investment in technology and infrastructure, as well as the development of data management systems that can handle the large amount of data generated by these systems. Additionally, privacy and ethical considerations must be taken into account to ensure that the use ofAI technology does not infringe on the rights ofpassengers or workers. In conclusion, the use of AI and ML technology in the analysis of existing ccrv networks of the Indian Railways can bring about significant benefits for crowd management, crime prevention, and work monitoring. However, careful planning and implementation are required to ensure that these benefits are realized while respecting the privacy and ethical concerns ofstakeholders

Artificial intelligence	Software	Design ofa system to provide information in a desired Indian language on demand by passengers and other customers, in written and oral form. The system should be extendable to foreign languages for tourists as and when required. Limited vocabulary systems for commonly required railway information services are acceptable. Scope ofthe system - announcements at stations, information over IVRS, information through chatbots and web interfaces. constraints to be considered - voice recognition in different languages; noisy ambience at stations; adequate computing power for on-the-fly content generation; delivery on mobile devices.
Artificial intelligence	Software	The employment landscape for persons with disabilities in our country remains challenging, despite advancements in accessibility, education, and skills development. A recent survey indicates that 64% of persons with disabilities in India are unemployed. Those falling under the D and E categories, entitled to a 4% reservation in government and PSU jobs, face difficulties accessing notifications due to limited availability in print and online media. This issue underscores the need for a curated and accessible content platform to disseminate crucial information about job opportunities, requirements, coaching facilities, and competitive examinations. Moreover, limited literacy and awareness among parents contribute to a hindered application process, impacting the effective implementation of the Rights of Persons with Disabilities Act, 2016.

Artificial intelligence	Software	Press Releases of the Press Information Bureau are in the form of text. The attention span of the user is reducing by the year, So to engage with the user in a meaningful way, the Press Releases need to be provided in a video format. Software should be designed in such a format to generate the videos automatically from the Press Releases published. The images and clips used for generating the video should be copyright-free. There should be a provision to store a pool of images and clips for generating the video. The generated video should be vetted by the concerned PIB officer before publishing. Software should be designed in such a format to generate the videos automatically from the Press Releases published. The images and clips used for generating the video should be copyright-free and authentic sources. There should be a provision to store a pool of images and clips for generating the video. The generated video should be vetted by the concerned PIB officer before publishing. The software also includes a provision to send the notification to the concerned PIB officer for approval. After approval, the software should have the feature of auto-uploading on the concerned social media sites.

Artificial intelligence	Software	The Press Information Bureau (PIB) serves as the primary channel for disseminating government information to media outlets across India. To enhance feedback mechanisms, there is a need for an automated system using Artificial Intelligence / Machine Learning for regional languages. This system should analyze around 200 regional media websites, categorize stories by department tags, and classify them as positive, neutral, or negative towards the Government of India. Negative stories should trigger real-time notifications to the relevant PIB officer. Additionally, the system should automatically scan e-papers using Optical Character Recognition, extract relevant news clippings, and organize them based on departments and tonality. This solution aims to streamline feedback processes and ensure timely awareness of media sentiments.

Artificial intelligence	Software	The chemical and petrochemical industries generate extensive data, but its disparate nature hinders industry-wide decision-making. The challenge is to develop a solution that compiles and standardizes data from various companies. Key aspects include designing a framework for data standardization and integration, creating mechanisms for efficient data collection and aggregation, defining criteria for optimum data selection, and implementing analytical tools for insight generation. The goal is to enable strategic decision-making and performance benchmarking across the chemical and petrochemical industries by addressing data inconsistency and accessibility issues.
Artificial intelligence	Software	At present rake supply is made by railway on a cluster basis / Coalfield basis for a group of mines. â€¢ At times, the placement of rakes in a siding is made where coal sock is not adequate. This leads to the payment of demurrage charges. â€¢ A digital platform/ algorithm needs to be created for all the available railway siding where the updated status of coal stock in siding shall be maintained online. â€¢ This will help in sending railway rakes available at the nearest location and also reduce in demurrage cost of the company.

Artificial intelligence	Software	Coal transportation involves a complex network of multiple modes of transportation, including trucks, trains, and ships. However, the lack of a unified digital platform for tracking and monitoring coal movement across these modes often leads to inefficiencies, delays, and a lack of transparency in the coal supply chain. This hampers the ability of stakeholders, such as coal producers, transporters, and end-users, to make informed decisions and optimize logistics operations. The challenge is to develop a digital platform that provides multi-modal visibility of coal transportation, allowing stakeholders to track the movement of coal from source to destination seamlessly. The platform should leverage image analytics, data integration, and advanced visualization techniques to provide real-time insights into the location, status, and condition of coal shipments. It should enable effective coordination, proactive decision-making, and optimization of logistics operations for all stakeholders involved in the coal supply chain. The solution should address the following key aspects: Data Integration: Create a scalable and robust system that integrates data from various sources, such as GPS devices, sensors, transportation management systems, and third-party APIs. The platform should be capable of handling large volumes of data from different modes of transportation and ensure the accuracy and reliability of the integrated information. Multi-Modal Tracking: Develop image analytics capabilities to analyze real-time images or video feeds from cameras installed at critical points in the coal transportation network. The platform should identify and track coal-carrying vehicles, wagons, or ships, and provide accurate information on their location, movement, and capacity utilization. Real-Time Visualization: Design an intuitive and user-friendly interface that displays real-time data on the location and status of coal shipments across multiple modes of transportation. The platform should provide interactive maps, dashboards,

Artificial intelligence	Software	Challenge Description: In large-scale mining, shovel operators are responsible for loading materials onto dumpers. However, the lack of real-time visibility regarding the load status of dumpers often leads to inefficiencies and delays in the overall workflow. Currently, shovel operators rely on manual communication or visual cues to determine whether a dumper is ready for loading or its loading has been completed. The challenge is to create a system that provides shovel operators with instant and accurate information about the load status of dumpers, eliminating the need for manual communication and improving the efficiency of the operation. The solution should leverage real-time data from sensors or other reliable sources to deliver timely updates to shovel operators, enabling them to make informed decisions and optimize their loading process. The solution should address the following key aspects: Real-time Monitoring: Develop a mechanism to continuously monitor the load status of dumpers in real time. This may involve integrating sensors, IoT devices, or any other suitable technology to collect and transmit data reliably. Visualization and Alerts: Design an intuitive interface that displays the load status of each dumper to the shovel operator in real time. The interface should provide clear visual indicators and notifications to inform the operator about the readiness of each dumper for loading as well as inform the shove operator when the loading of the dumper is completed. Data Integration: Create a system that seamlessly integrates with existing infrastructure, such as the shovel operator's workstation or control panel. The solution should ensure smooth data transmission and compatibility with other systems or software used in the mining site. Scalability and Robustness: Develop a solution that can handle a large number of dumpers simultaneously and is capable of operating reliably in challenging environments. Consider factors such as connectivity issues, data
Artificial intelligence	Software	A Chatbot is a computer program that uses Artificial Intelligence (AI) and Natural Language Processing (NLP) to understand customer questions and automate responses to them, imitating human conversation. As of now, various Acts, Rules and Regulations, DGMS Circulars, CoI Proceedings, etc. are applicable to Mining industries. These are some of the Acts and Rules: The Coal Mines Act, 1952 Indian Explosives Act, 1884 Colliery Control Order, 2000 Colliery Control Rules, 2004 The Coal Mines Regulations, 2017 The Payment of Wages (Mines) Rules, 1956 Additionally, land-related laws i.e. CBA, LA, RandR related queries can also be incorporated to develop Robust Management Information System. Hence it is proposed to make a chatbot available 24/7 for stakeholders and customers which can answer all their queries regarding the rules, acts, and circulars.

Artificial intelligence	Software	The requirement set is given below: 1. To build a smart chatbot on top of Large Language Model (LLM)- driven chatbots like ChatGPT that uses transformers like GPT3. The aim is to assist the user through a digital assistant to provide answers to all queries the user and reduce the time and effort while navigating to any part of the PGRKAM digital platform. 2. The system should be able to intelligently addresses text and voice queries in Punjabi/English/Hindi around job search, skill development and foreign counseling along with recommending jobs based on the candidate's preference. A multilingual screen reading module could be added for better query handling. 3. The app will also be able to maintain candidates' history and preferences to add a level of personalization for better recommendations. Expected Outcome User should be able to chat/read/listen and discover any information pertaining to job, skill development or foreign counseling on smartphone or laptop computer.
Artificial Intelligence	Software	Creating intelligent devices to improve the commutation sector